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COST OF LIVING AND INFLATION
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DISTRIBUTION OF LOCAL PURCHASES
DECKER AREA MINES

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COST OF LIVING AND INFLATION
and
DISTRIBUTION OF LOCAL PURCHASES
DECKER AREA MINES

by
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Prepared for:

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Office of Surface Mining
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TABLE OF CONTENTS

Page

1. Cost of Living and Inflation in Sheridan, Wyoming. 1

2. Distribution of Local Purchases Decker Area Mines 6

1. COST OF LIVING AND INFLATION IN SHERIDAN, WYOMING

Introduction

One concern in communities impacted by energy development is that the growth will accelerate inflation and raise the cost of living. Western communities experiencing energy impact are typically characterized by limited housing stock, trade market isolation, underdeveloped commercial infrastructure, and a local economy traditionally based on agriculture into which many high income jobs in the energy sector are abruptly introduced. Any of these factors could increase normal inflationary pressures in the local area and lead to a higher cost of living.

Inflation Rates

Table 1 displays the inflation rates for northeast Wyoming (Campbell, Crook, Johnson, Niobrara, Sheridan, and Weston counties), Wyoming as a whole, and the nation. From 1978 to 1980 -- an era of rapid growth in northeast Wyoming due to coal, uranium, and oil and gas development and exploration -- the rate of inflation in northeast Wyoming increased slightly more rapidly than in the nation. Although the inflationary pressures in northeast Wyoming during this period were substantial, the difference in inflation rates in the northeast region of Wyoming, the state of Wyoming, and the United States have been very small (less than 1 percent) with the exception of 1979. In 1979, when significant levels of energy-related construction activity were reached in northeast Wyoming, the regional rate -- though higher than the national average (13.57 compared to 12.00) -- was below that of the state (15.16). In 1981, the inflation rate in northeast Wyoming (6.67) was below both state (6.77) and national (8.30) levels.

Cost of Living Index

Table 2 presents the cost of living indexes for Sheridan, Wyoming from 1979 to 1982. The cost of living indexes, disaggregated into

TABLE 1

Regional Inflation Rate Compared to Other Selected Areas

Year	Northeast Wyoming[a]	State of Wyoming	United States
1982	NA	NA	3.90
1981	6.67	6.77	8.30
1980	10.84	10.18	10.70
1979	13.57	15.16	12.00
1978	12.32	11.63	11.90

Source: Wyoming Department of Administration and Fiscal Control, Research and Statistics Division, Wyoming Cost of Living Index; U.S. Department of Commerce, Survey of Current Business.

Note: NA = Not available.

[a] Northeast Wyoming includes Campbell, Crook, Johnson, Niobrara, Sheridan, and Weston counties with data collected in Gillette, Sundance, Buffalo, Lusk, Sheridan, and Newcastle.

TABLE 2

Cost of Living Index by Item
Sheridan, Wyoming

Year	Quarter	Rank of All Items[a] Cheyenne	Rank of All Items[a] Sheridan	Index of Sheridan: All Items	Food	Housing	Apparel	Transportation	Medical	Recreation and Personal Care	Rank in Population Size Cheyenne	Rank in Population Size Sheridan
1983	1	20	6	111.23	109.63	109.06	101.89	101.95	101.79		2	7
1982	4	20	10	108.70	117.23	110.67	108.15	100.35	100.17	104.29		
	3	19	9	108.75	104.33	114.87	116.48	101.15	104.99	101.83		
	2	19	8	107.79	102.10	114.19	110.81	101.17	104.07	102.75		
	1	17	7	109.59	104.06	117.23	111.91	100.00	105.93	104.54	2	7
1981	4	19	4	110.94	100.17	120.40	116.04	104.62	98.69	104.52		
	3	19	7	109.02	101.13	117.82	113.78	100.71	98.62	103.03		
	2	19	11	105.67	102.56	107.86	116.34	104.02	97.47	103.17		
	1	20	12	103.33	104.77	105.04	107.36	99.93	96.79	100.53	2	6
1980	4	18	16	102.60	99.51	106.07	106.69	97.53	96.31	103.19		
	3	16	11	101.97	101.91	103.94	98.16	97.70	97.36	105.44		
	2	20	9	106.56	97.33	114.84	107.86	100.68	96.17	102.71		
	1	20	9	106.30	103.24	112.83	101.08	100.86	102.62	106.56	2	6
1979	4	21	6	108.43	102.53	119.75	93.97	100.90	103.61	111.42		
	3	22	10	105.80	100.50	117.20	92.70	100.50	91.20	108.50		
	2	15	5	102.60	103.50	106.60	95.10	97.30	95.00	105.70		
	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	6

Sources: Wyoming Department of Administration and Fiscal Control, Research and Statistics Division, Wyoming Cost of Living Index; Wyoming Department of Administration and Fiscal Control, Division of Research and Statistics, Wyoming Population and Employment Report, July 1982.

Note: Cheyenne, Wyoming = 100.00, NA = Not available.

[a] Communities included in the index are: Buffalo, Casper, Cheyenne, Cody, Douglas, Evanston, Gillette, Greybull, Jackson, Kemmerer, Laramie, Lusk, Newcastle, Pinedale, Rawlins, Riverton, Rock Springs, Sheridan, Sundance, Thermopolis, Torrington, Wheatland, Worland.

components, are compiled by the state of Wyoming for twenty-three communities throughout the state on a quarterly basis, with Cheyenne, Wyoming as the base (100). The communities are then ranked from highest to lowest according to the overall index (all items). Sheridan was in the top quarter of the twenty-three communities in only two of the fifteen quarters for which data are available -- second quarter 1979 and fourth quarter 1981. It was in the second quarter for all other periods with the exception of the fourth quarter 1980 when it ranked 16th out of the 23 communities. The volatility of rankings from quarter to quarter indicate that these figures and rankings should be interpreted with caution.

Among the components of the cost of living index in Sheridan, housing and more recently, apparel, (and in fourth quarter 1982, food) have been high (over 110). During the fourth quarter of 1981 when Sheridan reached its highest cost of living index relative to the rest of the state, the cost of housing was 20.4 percent higher and apparel was 16.04 percent higher in Sheridan than in Cheyenne, Wyoming (which ranked 19th of the twenty-three communities on both of these items).[1] During the period (1979 to 1983) Cheyenne consistently ranked second among the twenty-three communities in population size while Sheridan moved from sixth (1979 to 1981) to seventh (1982 to 1983).

Overall, the cost of living index for Sheridan remained fairly stable from 1979 to 1982, however, there have been periods of wide fluctuation in the index, due primarily to changes in the cost of housing. The rapid changes in the cost of housing cumulatively resulted in a slightly higher inflation rate for the region.

Conclusions

The available data support the widely held assumption that rapid and potentially temporary increases in demand for high-cost, fixed-site

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[1] Curiously, the housing cost index in Sheridan reached its peak in the fourth quarter of 1981, just when energy development was slowing down in the area.

commodities (such as housing and subdivided land) such as those accompanying large-scale energy development result in inflationary pressures on these commodities. The data do not generally support the conclusion that energy-related growth results in substantially increased inflation in other areas -- either in wages or commodity prices. Consequently, as shown in the data of this report, the incremental (above national rates) inflation in overall cost of living due to energy development appears to be small, and to result in large measure from increased housing costs. Excess (and potentially temporary) demand for housing results in considerable inflation in housing costs, which contribute heavily to the overall increases in inflation rates and cost of living, given the methods used to construct these indexes. However, because of the limited time period for which data are available (the series starts after the energy growth was well under way) and the instability of the measures from quarter to quarter, firm conclusions cannot be drawn about the specific effects of energy development on consumer prices.

2. DISTRIBUTION OF LOCAL PURCHASES DECKER AREA MINES

The purpose of this working paper is to describe the regional distribution of local purchases for coal mines in the Decker study area. The methodology utilized in the study was to interview the purchasing agents for the Decker and Big Horn mines to determine -- (1) the quantity and value of local purchases made by the companies, and (2) the distribution of local purchases among the communities in the region. The location of the mines and the communities is shown in Figure 1.

Tables 3 and 4 present the results of the interviews with the purchasing agents for the Decker Mine and the Bighorn Mine, both of which are owned and operated by the Peter Kiewit and Sons Company.[1] Although the value of total and local purchases varies depending upon the level of production and the type of mining operation, the data show that over 65 percent of the total purchases in 1981 for both mines were made within the region. For each million tons of coal, each mine spent over $1 million (1981 dollars) within the region for purchases of equipment and materials.

In general, the distribution of the local purchases among the trade centers in the area was consistent across the two mines. Of the total local purchases, approximately 14 percent were made in Billings, 27 percent in Casper, 3 percent in Gillette, and 40 to 50 percent in Sheridan. Within the Decker study area (Big Horn County, Montana and Sheridan County, Wyoming), local purchases in Hardin and Sheridan amounted to approximately $2.6 million per mine or 46 percent of the total average local purchases in the region.

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[1] The Decker Mine is a dragline operation located in Big Horn County, Montana. In 1981, the mine produced 8 million tons of coal that was shipped from the mine site by rail. The Big Horn Mine is a truck and shovel operation that is located in Sheridan County, Wyoming. In 1981, mine production was 3 million tons.

TABLE 3

Distribution of Local Purchases
Bighorn Mine

Item	Total Purchases 1981 $	Local Purchases 1981 $		Regional Distribution of Local Purchases											
				Billings		Hardin		Sheridan		Casper		Gillette		Miles City	
		%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.
Lumber and Wood Products	12	100	12	5	1			95	11						
Misc. Paper for Engineering, Office, Operations	12	100	12							100	12				
Explosives/Blasting Materials	1,481	40	592					63	373					37	219
Diesel Fuel/Gasoline	297	100	297					100	297						
Fertilizers	6	100	6					100	6						
Lube and Hydraulic Fluids	811	100	811					100	811						
Tires	541	100	541							100	541				
Other Chemicals and Allied Materials	270	25	68					100	68						
Miscellaneous	270	100	270	10	27			15	40	75	203				
Mining Tipple Equipment Repair	811	70	568	50	284			50	284						
Dozers, Scrapers, Graders, and Loaders	135	100	135	20	27							80	108		
Drills	54	100	54							100	54				
Cranes and Lifts	34	100	34							100	34				
Automotive and Truck Repair Equipment	34	100	34					100	34						
Shop Tools and Equipment	27	100	27	10	3			15	4	75	20				
Other Nonelectrical Machinery	67	100	67	40	27					60	40				
Electrical Mining Repair	405	100	405	50	203			50	202						
Electrical Power Cables and Connectors	34	100	34					15	5	85	29				
Other Electrical Equipment	47	100	47	50	24			50	23						
Coal Hauling Trucks	575	100	575	20	115					80	460				
Specialty Trucks	31	100	31					100	31						
Personnel Carriers	23	100	23					100	23						
Auto and Truck Repair Parts	304	100	304					100	304						
Other Transportation Equipment	33	100	33					100	33						
Engineering Equipment	20	90	18	17	3			83	15						
Health and Safety	10	100	10	100					10						
Other Instruments and Controls	7	0	0												
Dragline Repairs	0	0	0												
TOTAL	6,351	79	5,008	14	714	0	0	50	2,574	28	1,393	2	108	4	219

Source: Dan Kawalik, Purchasing Agent, Bighorn Mine, personal communication, November 1982.

TABLE 4

Distribution of Local Purchases
Decker Mine

Item	Total Purchases 1981 $	Local Purchases 1981 $		Regional Distribution of Local Purchases											
				Billings		Hardin		Sheridan		Casper		Gillette		Miles City	
		%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.
Lumber and Wood Products	17	85	14					100	14						
Misc. Paper for Engineering, Office, Operations	17	80	14					100	14						
Explosives/Blasting Materials	2,121	85	1,803					35	631	12	216			53	956
Diesel Fuel/Gasoline	373	100	373	20	75					80	298				
Fertilizers	8	0	0												
Lube and Hydraulic Fluids	1,200	80	960					12	115	88	845				
Tires	1,400	90	1,260	6	76			88	1,108	6	76				
Other Chemicals and Allied Materials	331	16	53	50	27			50	26						
Miscellaneous	331	45	149	44	66			56	83						
Mining Tipple Equipment Repair	900	10	90	50	45			50	45						
Dozers, Scrapers, Graders, and Loaders	800	50	400	90	360					10	40				
Drills	165	0	0												
Cranes and Lifts	60	30	18	33	6					67	12				
Automotive and Truck Repair Equipment	40	75	30	13	4			80	24	7	2				
Shop Tools and Equipment	50	80	40	19	8			62	24	19	8				
Other Nonelectrical Machinery	83	75	62	13	8			7	4	27	17	53	33		
Electrical Mining Repair	150	75	113	13	15			7	8	27	30	53	60		
Electrical Power Cables and Connectors	100	35	35	29	10			13	5	29	10	29	10		
Other Electrical Equipment	58	80	46	38	17			12	6	38	17	12	6		
Coal Hauling Trucks	600	55	330					91	300			9	30		
Specialty Trucks	38	50	19	50	10					50	9				
Personnel Carriers	29	30	9			33	3	67	6						
Auto and Truck Repair Parts	372	70	260	14	36			86	224						
Other Transportation Equipment	40	10	4					100	4						
Engineering Equipment	30	25	8	40	3			40	3	20	2				
Health and Safety	15	95	14	84	11			11	2	5	1				
Other Instruments and Controls	10	0	0												
Dragline Repairs	200	95	190	21	40					16	30	63	120		
TOTAL	9,538	66	6,294	13	817	0	3	42	2,646	26	1,613	4	259	15	956

Source: Bud Hall, Purchasing Agent, Decker Mines, personal communication, November 1982.